

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below; and

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, having a place of business at 7839 Churchill Way, MS 3999, Dallas, Texas 75251, P.O. Box 655474, MS 3999, Dallas, Texas 75265, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year;

TITLE OF INVENTION	High Output Impedance Biasing for Magnetoresistive Elements		
SIGNATURE OF INVENTOR AND NAME	Motomu Hashizume <i>Motomu Hashizume</i>	Naoko Jinguiji <i>Naoko Jinguiji</i>	
DATE	11/28/03	11/28/03	
RESIDENCE (City, State)	Tokyo, Japan	Tokyo, Japan	
DATE APPLICATION EXECUTED	4/3/02	4/3/02	

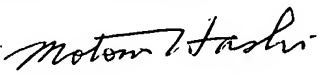

After recordation, please return Assignment to:

W. James Brady
Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, TX 75265

**APPLICATION FOR UNITED STATES PATENT
DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I declare that my residence, post office address and citizenship are as stated below next to my name; that I verily believe that I am the original, first and sole inventor if only one name is listed below, or an original, first and joint inventor if plural inventors are named below, of the subject matter which is claimed and for which a patent is sought on the invention entitled as set forth below, which is described in the attached specification; that I have reviewed and understand the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration; that no application for patent or inventor's certificate on this invention has been filed by me or my legal representatives or assigns in any country foreign to the United States of America; and that I acknowledge my duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

TITLE OF INVENTION: Impedance-Controlled Write Driver for Low Power Preamp		
POWER OF ATTORNEY: I HEREBY APPOINT THE FOLLOWING ATTORNEYS TO PROSECUTE THIS APPLICATION AND TRANSACT ALL BUSINESS IN THE PATENT AND TRADEMARK OFFICE CONNECTED THEREWITH		
Practitioners at Customer Number 23494		
SEND CORRESPONDENCE TO: W. Daniel Swayze Texas Instruments Incorporated P.O. Box 655474, M/S 3999 Dallas, TX 75265		DIRECT TELEPHONE CALLS TO: W. Daniel Swayze 972-917-5633
NAME OF INVENTOR: Motomu Hashizume	NAME OF INVENTOR: Naoko Jinguji	
RESIDENCE & POST OFFICE ADDRESS: 2-5-13 Shoan Suginami-ku, Tokyo 160-0054 Japan	RESIDENCE & POST OFFICE ADDRESS: 201-2-19-6 Umesato Suginami-ku, Tokyo Japan	
COUNTRY OF CITIZENSHIP: Japan	COUNTRY OF CITIZENSHIP: Japan	
SIGNATURE OF INVENTOR: 	SIGNATURE OF INVENTOR: 	
DATE: 11 / 28 / '03	DATE: 11/28/'03	